

“Cannot Honolulu, Hawaii Match and/or Surpass Bicycling in South Korea”

?!

14 April, 2015

Fellow bicyclists & MACB members~

South Korea seems to be contributing leading-edge technology in several fields including electronics and mobile devices. They are now lending that technology to bicycling as an alternative mode of transportation and the introduction of bike-sharing. I was recently made aware of South Korea's both interest, and infatuation, with this 19th century invention as an answer to 21st century issues. A friend told me a coupla' things that are going on in South Korea, both in Seoul and throughout the country ~ I then proceeded to go online to research some of these things that were conveyed to me, things that South Korea has in place, and/or is putting in place. My report talks about:

1) Bike-Sharing

2) A 20-mile bike lane, covered with solar panels, down the middle of a 6-lane highway/freeway, and

3) The spike in South Korea's bicycle imports:

- 1) “Bike-Sharing” is defined as: “Bicycle rental system which allows (without additional charge) to take a bicycle in one point and return it in a different one; where the bicycle can be rented by another user”.

“A bike-sharing program has several advantages as a sustainable transportation mode such as the promotion of public transport through multi-modality, the reduction of automobile dependency, and the contribution to healthy lifestyle”!

- A new public bicycle sharing system that is the beginning of a city-wide bike service and the transformation of Seoul's road infrastructure to a more diverse network.
- Seoul originally planned to establish a bike-sharing program similar to the Velib bike-sharing system in Paris. The priority was to encourage citizens and tourists to “Use Bikes Instead of Cars”.
- Public bicycles will be offered in five(5) separate areas replete with bike racks with bicycles.
- An App will allow you to find the location of the bicycles and unlock one with your smartPhone app or by calling the service-hotline.
- 150 stations to be built next to subway stations, bus stops, apartment buildings, and schools.
- 2,000 bicycles initially.
- By 2017 > 10,000 bicycles
- By 2020 > 20,000
- The bike-share program reduces the number of parked bicycles.
- Presently, there are a total of 9,373 bikes at 493 stations in 14 cities throughout South Korea.

- Paris, London, and New York initiated public bicycle sharing systems with the goal to raise the share of cycling.
- New York has “Citi bikes”, London has “Boris bikes” /or “Barclays Cycle Hire”, and Paris has the world famous “Velib”.
- The new system in South Korea will be managed by a “cloud service” with large servers.
- Now, Seoul buys new bicycles for a small amount but in the future the large system will reduce the costs because new bicycles will be bought in large quantities.
- Safety is paramount: > in New York, cycle-tracks have been created > Paris will double its bicycle infrastructure in the next 5-years.
- Seoul’s main roads will be equipped with bicycle lanes, whilst bicycle paths and widened sidewalks are being created within the city gates. The number of lanes allocated to cars will be reduced.
- Cycling is a popular sport in Korea and many people cycle along the rivers for recreational purposes.
- A bicycle can increase the catchment area of a subway station.
- Once bicycle infrastructure is in place, and parking laws are enforced, the biggest effect will be the reduction of traffic accidents.
- In a very short time, South Korea has become surprisingly bikeable.
- Copenhagen is by far the most bicycle-friendly city, yet the industrial city of Changwon is not far behind. The people of Changwon have come to love the bicycle and bicycling so much, they’ve written a song about it !
- The population of both Changwon and Honolulu is about 1 million people. “Nubija” – “Nearby Useful Bike, Interesting Joyful Attraction” is the bike-sharing system that is in place in Changwon. It is the only bike-share system in the world that is wholly owned and operated by the city it serves !
- This city, way down in the southwest of South Korea, has achieved an unparalleled degree of cycle-friendliness.
- Changwon’s manageable size, clean design, and straight, wide streets has placed it well for conversion into a bastion of bike-ability.
- When “Nubija” launched in 2008, its users had fully protected lanes to ride in, separated from cars not just by concrete barriers but often walls of well-trimmed trees and shrubs. This frees cyclists from the threat of “dooring” (getting whacked into moving traffic by the opening door of a parked vehicle) which, in nearly all of America’s cities, remains ever present.
- “Nubija” bike stations now total more than 240.
- “Nubija”, with 3,000 bicycles in use each and every day, ranks as by far the country’s greatest success !
- The cost of membership for “Nubija” is less than the equivalent of US\$35 for the year !
- Changwon’s “Nubija” bike-share system has gained the envy of most major cities across the world. Riding a bike to work is good for the health, and sustainable urban friendly development.

In summation, cycling is a popular sport in Korea and many people cycle along the rivers for recreational purposes. Riding a bike to work is good for the health and sustainable urban development. Bike-sharing programs have innate advantages: > very convenient > always available > instead of buying a bicycle, you can just rent one for a reasonable price > this enhances mobility of low-income households and other groups > in a city such as Honolulu/Waikiki which is rich in tourism, such a system can certainly thrive even more greatly...

"A bike-sharing program has several advantages as a sustainable transportation mode such as the promotion of public transport through multi-modality, the reduction of automobile dependency, and the contribution to healthy life-styles"" ...

2) "Bike lane down center of Korean highway is covered with solar panels"

- A 20-mile stretch in South Korea, linking the two cities of Daejeon and Sejong, a "center' dedicated, safe bike-way amongst a 6-lane freeway.
- An overhead roof housing "solar panels" generating electricity whilst coincidentally providing bicyclists with both shade from the intense Sun and cover from the rain.
- This "inter-city infrastructure' becomes very appealing to Honolulu in light of the recent several hours of absolute 'grid-lock" caused by the malfunction of a "zip-mobile".
- Such a "safe and protected, center bike-lane" running the length of the H-1 Freeway connecting Kapolei to downtown Honolulu, could provide a healthy, sometimes more expedient alternative of a hardier, more robust commuter.
- Bicycle commuters from Mililani, Ewa Beach, Waipahu, and Pearl City could merge along its route.
- Stop and scrap the HART – Honolulu Rail Transit Project before it gets anymore out of hand ~ initially bid at \$2 billion > no verging on \$7 billion > pundits saying it will reach \$10 billion ?!!!!
- It is an "eyesore", "scarring" ancient Hawaiian sacred land.
- Redirect the money to > such a "center, photo-voltaic, bike-lane" > to new and improved "The Bus" all-electric /or HFC – Hydrogen Fuel Cell busses > a continuous, "uninterrupted" H-4 Freeway, built high-above the ground following the coastline from Barber's Pt. to downtown Honolulu

And finally,

3) "South Korea's Bicycle imports jump 18.5% in 3-years":

- Fueled by the spike in people enjoying leisure and sports activities.
- 1.9 million bicycles in 2014 !
- More and more South Koreans are taking time off for sports and recreational activities.
- More bicycle-related infrastructure such as dedicated bike-lanes and roads has bolstered the boom.

- The average Chinese-made bicycle had a price-tag of US\$80 whilst those made in the United States reached US\$883.50
- Bikes made in Britain and Germany cost US\$846.70
- U.S. and European bicycles are expensive primarily because many are rugged mountain bikes,

~finis~

Edward Huls

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Seoul's New Public Bicycle System

DECEMBER 19, 2014 BY [NIKOLA \(HTTP://KOJECTS.COM/AUTHOR/NIMEDI/\)](http://kojects.com/author/nimedi/) [6 COMMENTS \(HTTP://KOJECTS.COM/2014/12/19/SEOULS-NEW-PUBLIC-BICYCLE-SYSTEM/#COMMENTS\)](http://kojects.com/2014/12/19/seouls-new-public-bicycle-system/#comments)

Megacities like Paris, London and New York initiated public bicycle sharing systems with the goal to raise the share of cycling. New York has their Citi bikes, London has the Boris bikes (or officially known as Barclays Cycle Hire) and Paris begun in 2007 the world-famous Vélib'. These are all huge systems with thousands of bicycles. Once, we gave an overview of [systems in Korea \(http://kojects.com/2013/02/01/bike-sharing-in-south-korea/\)](http://kojects.com/2013/02/01/bike-sharing-in-south-korea/) and until now Seoul offers only two small bike-sharing services with around 340 bicycles. This year the bicycle policy team from Seoul's transport division was unbelievably busy with setting up a new master plan for the development of such a system. A new public bicycle sharing system will be implemented in five areas in Seoul. It is the beginning of a city-wide bike service and the transformation of Seoul's road infrastructure to a more diverse network.

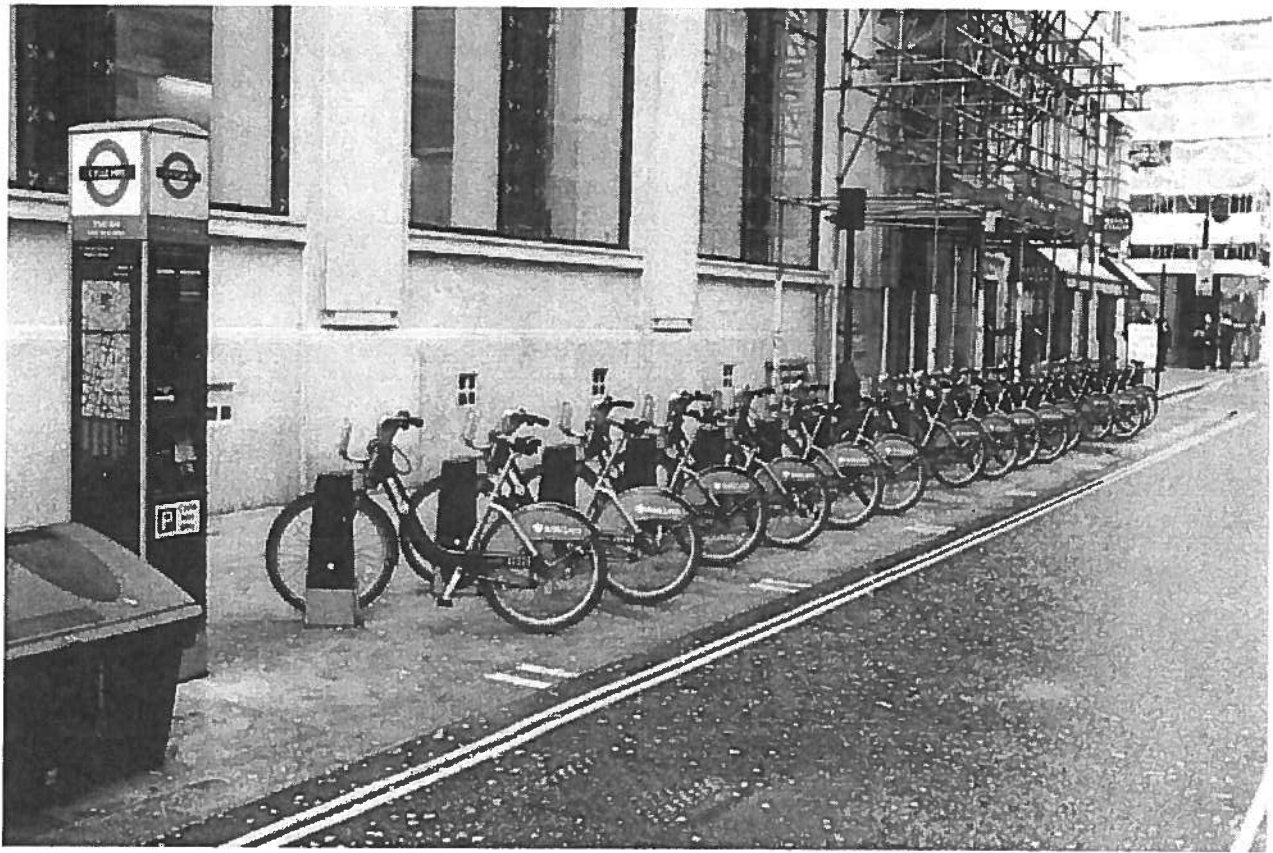
Areas of the New Service

Actually, there are three services in Seoul: The public bicycle systems on Yeouido and Sangam-dong (area of the official World Cup Stadium) are managed by the city. They were established in 2010. Yeouido has 26 stations with 220 bicycles in use and Sangam-dong provides 120 bicycles at 18 stations. In addition, the southern district of Seoul Seocho-gu manages a system with 13 stations with 95 active bicycles since 2011. All of the systems work quite similar: You have to register at the Kiosk for one-time use or online for a long-term membership.

Seoul is going to overhaul the system completely in 2015. Bike-sharing is going to be offered in five areas from September 2015. In addition to Yeouido and Sangam-dong, the city will offer public bicycles in Sinchon, Seongsu-dong and the CBD (the area inside the four gates). I believe that the majority of readers are familiar with Sinchon (the area in front of the Yonsei University) and Seoul's center, which stretches from Namdaemun to the royal palace Gyeongbokgung and from Seodaemun to Dongdaemun. Seongsu-dong is a semi-industrial area inside Seoul. Maybe some of you have been to the Seoul Forest in Seongsu-dong. So the five areas are actually very different from each other. The accessibility to public transportation is in average very high in these areas and areas like Yeouido, Sinchon and Seoul's CBD have a very high work day population because of the daily influx of workers and students.

Next Generation of Bike Sharing?

Currently, we can speak of three generations of bicycle sharing systems (TheCityFix talks about three plus one generation (<http://thecityfix.com/blog/generations-bike-sharing-generations/>)). A good example of a third generation gives us London:



(<https://kojects.files.wordpress.com/2014/12/boris-bike.jpg>)

You have bike racks with bicycles and a kiosk terminal. The required space is relatively small. The picture on the right shows the current bicycle system on Yeouido, which has the same elements and thus, can be regarded as a third generation, too. Nubija in Changwon (<http://kojects.com/2014/03/04/nubija-changwons-bike-sharing-service/>) looks the same.

(<https://kojects.files.wordpress.com/2014/12/seoul-publicbike.jpg>) The new system will introduce the next generation of bike-sharing: The stations will only consist of bike racks. There will be no kiosks or terminals. The service has to be accessed by smartphone. Germany already has a similar system. It is operated by the Deutsche Bahn and it's called "Call a Bike". The bicycles are spread all over the town because they do not even have a designated station. There are just various recommended return points (usually big intersections). With an app you can find the location of the bicycles and unlock one with your app or by calling the service-hotline.

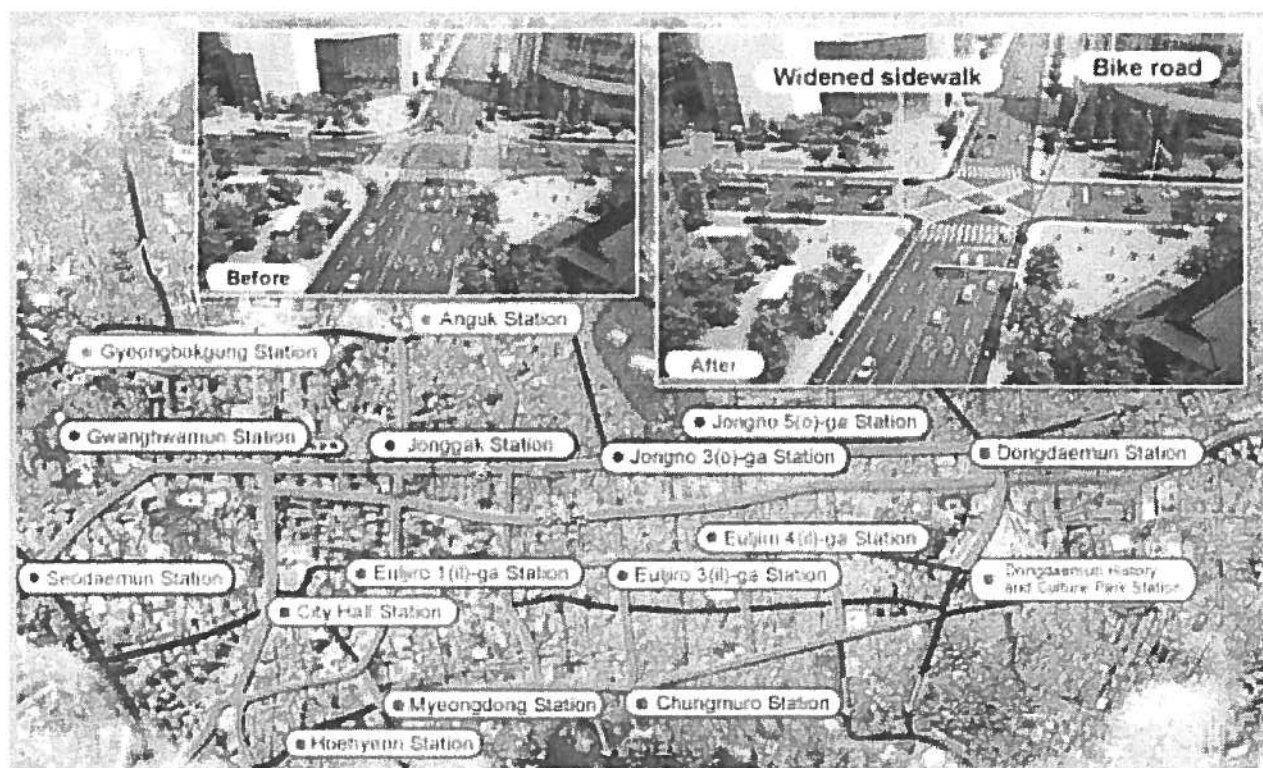
In the case of Seoul the bicycle has to be picked up and returned at one of the bike racks but the renting service works 100% through your smartphone. The app won't only give you a bicycle, it will also plan your route to your destination. Details aren't yet clear but I expect a very convenient system, where you can scan a bicycle or type in a code in order to unlock it. Tourists, who want to use a public bicycle, need to buy a M-Pass (http://www.visitseoul.net/en/article/article.do?method=view&art_id=52380&lang=en&m=0004007002011&p=07) and residents in Korea without a smartphone can also simply use their T-Money card.

Clearly that's the fourth generation of public bike-sharing: docking stations but without any interface, only smartphone or smart-card access, route-planner and other information to your destination by an app. The stations will require less space than the third generation. The new system will be managed by a cloud-service with large servers. The bicycle model will be very simple and look like normal city-bikes. It will be more cost-efficient: Now, Seoul buys new bicycles in a small amount but in the future the large system will reduce the costs because new bicycles will be bought in large quantities.

Bicycle Infrastructure

150 stations are going to be built. They are going to be next to subway stations, bus stops, apartment buildings and schools. The construction will cost around 2.8 billion KRW and the purchase of 2,000 bicycles for the first stage is going to cost 600 million KRW.

To guarantee the safety of cyclists, new infrastructure is required. In New York cycle tracks have been created while London still struggles to give cyclists enough space. Paris will double the bicycle infrastructure (<http://www.bicycling.com/news/featured-stories/paris-cut-cars-double-bike-lanes-2020>) in the next five years. Regarding Seoul main roads will be equipped with bicycle lanes. Inside the old city gates of Seoul bicycle paths and widened sidewalks will be created (here the example of Jonggak Station):



(https://kojects.files.wordpress.com/2014/12/seoul_center_bike.png)

(Source: [Seoul \(http://english.seoul.go.kr/policy-information/key-policies/four-year-plan-seoul-2/02-safe-city/\)](http://english.seoul.go.kr/policy-information/key-policies/four-year-plan-seoul-2/02-safe-city/))

It's an amazing development. The number of lanes allocated to cars will be reduced. I just hope that there will be a physical barrier between the bicycle path and the car lanes. Otherwise taxis and cars are going to park on the cycle tracks. It will be very important to have a continuous bicycle network and adequate bicycle facilities (like direction signs, traffic lights for cyclists etc.). In addition, Seoul plans to enforce a crackdown on illegal parking.

Vision

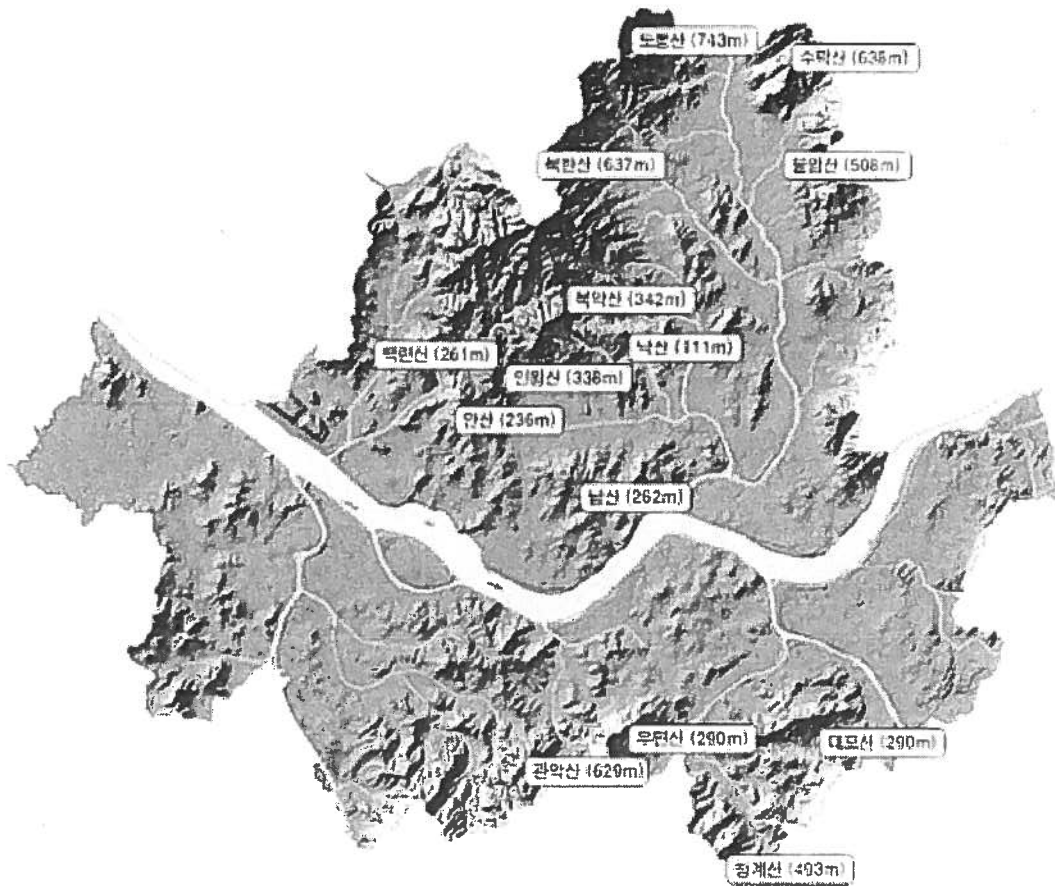
The goal is to expand the service to the whole city until 2020. In 2015, it begins with a fleet of 2,000 bicycles in five areas. In 2017 the number is expected to grow to 10,000 bicycles and the goal is to have 20,000 vehicles by 2020. That's twice the number of Boris Bikes and 2,000 more bicycles than the system of Paris. It is expected to grow like this:



(<https://kojects.files.wordpress.com/2014/12/bicycle-seoul.jpg>)

I don't know on what data this calculations are based on. Population density? Topography? Share of bicycles? The choice for the first five areas seems to establish a main axis through Seoul. By 2017 the service will expand to surrounding areas and south of the Han to Songpa-gu, Seocho-gu and Gwanak-gu. I'm a little bit surprised that the expected activity in Gangnam is extremely low. Of course, if you look at the topography of Seoul, you will see a lot of hills in that area but Dongjak-gu or Yongsan-gu has also some steep slopes (for an urban area).

서울의 지형 (자료 : 수치지형도2003, 재가공) ▶



(https://kojects.files.wordpress.com/2014/12/seoul_topography.png)

(Source: Seoul Institute (<http://www.si.re.kr/indicator4>))

I've also expected that Songpa-gu is more integrated in the public bicycle sharing system. That district in the southeastern part is very flat and it has well-developed bicycle infrastructure. Many people in Songpa-gu already use bicycles to reach the subway stations and you can see many bicycles piled up at the entry to the subway station. A bike-share program would reduce the number of parked bicycles.

Conclusion

South Korea wants to have a modal share of 10% for cycling until 2020. In Paris the modal split of bicycles grew from 1% to 2.5% after the introduction of the city-wide bike-sharing system. Cycling is a popular sport in Korea and many people cycle along the rivers for recreational purposes. However to commute or do everyday activities by bicycle, Korea still has a long way to go. I believe that the biggest potential for bicycles in Korea is as a supplement to public transportation. A bicycle can increase the catchment area of a subway station. The service has to be convenient and well-connected to public transportation. If the bicycle infrastructure gets built and parking laws are enforced, I expect that the biggest effect will be a reduction in traffic accidents. The safety and convenience of walking will increase.

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Bike Sharing in South Korea

FEBRUARY 1, 2013 BY [NIKOLA \(HTTP://KOJECTS.COM/AUTHOR/NIMEDI/\)](http://kojects.com/author/nimedi/) 6 COMMENTS
([HTTP://KOJECTS.COM/2013/02/01/BIKE-SHARING-IN-SOUTH-KOREA/#COMMENTS](http://kojects.com/2013/02/01/bike-sharing-in-south-korea/#comments))

One of the biggest trends in sustainable urban transport is called bike sharing. Bike sharing's success began in France and it took over a lot of cities worldwide. After a general definition of that concept and some advantages, I introduce the situation of bike sharing in Korea. A simple definition of bike sharing systems is given by Alberto Castro:

Bicycle rental system which allows (without additional charge) to take a bicycle in one point and to return it in a different one, where the bicycle can be rented by another user.

It's important to distinguish between bike sharing system and bike rental service: The last type implies the kind of service, where you can rent a bike for a specific time and you usually have to bring it back to the exact same place. Such a service is common for tourist areas. On the other hand, we have the bike sharing systems with multiple stations in a certain area. The intention of a bike sharing system is that it enhances the mobility without having the burden of using your own bike and the possibility, to return it to another place than where you've picked the bike up.

What are the advantages of bicycle sharing systems? Obviously, it is very convenient and almost always available. Instead of buying a bicycle, you can just rent one for a reasonable price. This enhances mobility of low-income house-holds and other groups. In [a very interesting research \(http://docs.trb.org/prp/12-1961.pdf\)](http://docs.trb.org/prp/12-1961.pdf) there are a number of important advantages summarized:

A bikesharing program has several advantages as a sustainable transportation mode such as the promotion of public transport through multi-modality, the reduction of automobile dependency, and the contribution to healthy life-styles.

These advantages are why most of the urban planners try to apply the bike sharing concept to parts of the city or sometimes even to the whole city. Each system differs from country to country, so the next part looks at the situation in Korea.

Biking in South Korea

Compared to Europe and Japan, Korea began to promote cycling late. Therefore, the percentage of bike ridership is very low with 1.2% of all trips made (in 2005). The first measures to promote bicycling was in 1995, followed by the first national plan in 1998 and a second national plan in 2002. Since 2006, cities acknowledged that there is a need for bike infrastructure and facilities. The government invests heavily in the development of bike sharing programs.

In 2007, the Korea Times (http://www.koreatimes.co.kr/www/news/nation/2007/08/117_8260.html) reported that Seoul originally planned to establish a bike sharing program similar to the Velib bike sharing system in Paris. The priority was to encourage citizens and tourists to use bikes instead of cars. At that time, the ambitious plan was to set up 200 stations in Songpa-Gu (the area of Jamsil Station), but as I will show later, this wasn't realized. Instead other areas benefited of the concept. Since these measures in combination with an active promotion of cycling, there is a rise in the usage of bicycles but the number of fatalities with vehicles and bikes grew, too. In comparison to European countries, the number of fatalities is five times higher (compared to Netherlands even 15 times higher).

Bike Sharing Systems in Changwon, Daejeon and Goyang



So in the next step, let's take a look at the current situation of bike sharing in Korea. You can find an overview of the bicycle sharing systems on page 11 in the presentation "Is Bike Sharing Sustainable?" by Hee-Cheol Shin

(http://ecomobility2011.iclei.org/fileadmin/Changwon_PPT_day_3/EcoMobility2011_ParallelA3_HeecheolShin.pdf) and a more detailed overview in Korean in the Transport Journal (교통연구) on page 82

(http://www.koti.re.kr/board/publication/index.asp?mcode=040400&code=publication_regular&cate=5&mode=view&board_record=201368).

As for Feb 2012, Korea has bike sharing systems in 14 cities and a total of 9,373 bikes at 493 stations. Probably, you would expect that Seoul has the largest system, but while Seoul has only 440 bikes, Changwon and Goyang have 4,630 and 3000, respectively.

Changwon was the first city in Korea and I've only heard good things about it. The system there is called Nabiju and as I said before, it has the largest number of bikes. Changwon's Nabiju is a very affordable service and it improved the mobility of large proportion of the population. It even enhances the usage of public transport because it connects neighborhoods with bus stations. Each bike is used for 4.9 trips per day in average.

Personally, I used the bike sharing system in Daejeon and I saw the system in Goyang. Using a bike in Daejeon was without any charge for the first hour and I just needed my mobile phone number and ID number. Daejeon is very flat and the sidewalk is divided into a section for bikes and one for pedestrians. One hour is enough to get from the city center to KAIST and to the Expo area. I couldn't see a lot of station along the way, so I put it back at the same place.

In 2011, I stayed for a few weeks in Goyang and every day I saw a lot people using the bike service. Goyang is a good example for a successful inner-city bike sharing system. It's not only about providing a good-working service, the infrastructure has to exist. Almost every sidewalk in Goyang has a bike

lanes (separated through a different surface/color). At every subway station, important bus station and places with a high frequency of visitors there is a bike sharing station. Totally, there are 125 bike stations! The picture on the left shows a station in Goyang.

Seoul's Bike Sharing System



(<http://kojects.files.wordpress.com/2013/01/yeouido.jpg>) The situation is far more complicated in Seoul: There are, as far as I know, only three areas with such a service: Yeouido, Sangam-Dong and Seocho-Gu. The bike sharing program in Seocho-Gu (<http://scbike.seocho.go.kr/>) is managed by the district itself and not by Seoul. They installed nine stations around the area Yangjae (양재), which is on the southern end of Seoul. Currently, there are around 60 bikes available. On the right, you can see the red-colored bikes of Yeouido.

Another system I came across was at Sangamdong, where the Soccer World Cup Stadium and the Sky Park (하늘공원) is located.



(<http://kojects.files.wordpress.com/2013/01/sangamdong1.jpg>) On the information table, there was written that the service is for free and for teenagers under 20 years it is even for three hours for free. After two hours it costs only 1,000 KRW and the maximum time of usage is three hours. That means that teenagers can use this systems completely for free and everyone else doesn't pay more than 1,000 KRW for the usage of this bikes. It is fully automated and the rental fee is paid over the mobile phone (not necessarily a smartphone). On the homepage of the Bike sharing service of Seoul (<https://www.bikeseoul.com/>), it's possible to get a one year usage ticket for unbelievable 30,000 KRW.

Seoul's big problem is that it is still very unfriendly to inner-city biking. At first, the city should work on that and then a well-functioning system for bike sharing can be introduced. This means that Seoul has to build a bike network with a lot of safety measures to avoid accidents with pedestrians and vehicles. The topography is a problem in Seoul because it isn't really flat and on top of that bicycling up and down a hill isn't easy when it's cold in the winter or very hot and humid in the summer. It could also result in the scenario that people are going to use the bikes to go down-hill (for example from Namsan Tower to Myeongdong). Such a scenario means that the station at Namsan has to be refilled with bikes multiple times per day (which costs a lot of fossil energy). However, in a more flexible fare system, the user can be awarded with discounts if he puts his bike in a rather empty station or has to pay more, if he adds a bike to a station with a small number of empty spots. Information about the price differences can be submitted through a smartphone-app. That would be a solution for Seoul's problem with topography.

Riding a bike to work is good for the health, and sustainable urban development. I hope to see soon a development into the right direction. Here are two pictures of the bike sharing station in Sangam-Dong:



(<http://kojects.files.wordpress.com/2013/01/sangamdong2.jpg>)



Conclusion

Korea build a large bike network along the river Han in Seoul and there are a lot of more infrastructure going to be build along rivers, coasts and cities throughout Korea. Bike sharing systems enhance inner-city cycling and the usage of public transport. Besides, they are good for the health and the living quality of urban areas.

Sources and Links: [Bike Sharing: A Global Trend \(http://sustainablecitiescollective.com/dirt/47561/bike-shares-global-trend\)](http://sustainablecitiescollective.com/dirt/47561/bike-shares-global-trend) | [Wikipedia \(http://en.wikipedia.org/wiki/Bicycle_sharing_system\)](http://en.wikipedia.org/wiki/Bicycle_sharing_system) | [Alberto Castro \(http://www.google.de/url?](http://www.google.de/url?)

From Seoul to Changwon, in search of the world's best bike-share scheme

An urbanist's tour of South Korea, day 4: How the little-known industrial city of Changwon learned to love the bicycle so much they've even written a song about it

Colin Marshall in Changwon

Thursday 17 July 2014 05.58 EDT

Not long ago, so South Korea residents of 15 or more years tell me, taking a bike to the streets of Seoul would have indicated a death wish. But then somehow, in less time than it took to rise from dire poverty amid the wreckage of war to the kind of envy-of-Asia wealth it enjoys today, the country became surprisingly bikeable. I still don't feel half as comfortable riding the streets of Seoul as I do those of bicycle-loving Copenhagen, or even bicycle-tolerating London, but nor do I fear for my life on them. Then again, given the behaviour of the drivers here, perhaps I should.

In many respects, South Korea's cities feel so distinctive because everyday Koreans don't observe the letter of law as rigidly as their counterparts in other developed countries - certainly not, when it comes to traffic, with the fearful near-piety of Americans. Hence the Korean tendency to take red lights as more 'cautionary suggestion' than 'implacable command'.

I got a group of North American expatriates swooning for their old continent by asking if they remembered how, when you stood in the middle of a pedestrian crosswalk back home, cars would refrain from driving into it. In urban South Korea, rather than trusting that the law will save them, drivers and pedestrians go by each situation's human context, which they examine and respond to accordingly.

It brings to mind those traffic studies where the removal of lights, stop signs and other supposed safety measures heightens drivers' awareness, and thus everyone's actual safety. So while on a bicycle in Seoul I expect far more close calls - on a daily basis, almost - I always imagine that a rare smash-up in Los Angeles will incur more damage.

You can, of course, cycle free from any such threat on the bike paths alongside the Han River, which runs through the middle of Seoul much as the Thames does London. With its half-mile width, riding beside the Han can feel like riding by the seaside, especially given the attractions placed in the parks all along the way: boat rides, eateries, playgrounds and outdoor gyms.

The harder part is getting hold of a bike in the first place. When we first tracked down one of Seoul's scattered bike-share stations, neither my girlfriend (a native Korean speaker) nor I (a decent reader of the language) could figure out its instructions. It didn't, as far as I could discern, belong to a city-wide system, so even those who were able to extract a bike couldn't stray far from the area immediately along the river.

Later, I found out the station requires a Korean mobile phone, meaning only Koreans and registered resident aliens can use it. This kind of thing can't but contribute to the impression some foreigners take away of Korea as a xenophobic country, or at least an unthinkingly insular one; the same system applies for more expansive and efficient bike-share systems in other cities – even Nubija, which is said to be an acronym for 'Nearby Useful Bike, Interesting Joyful Attraction'.

The pride of Changwon, an industrial city of just over one million, Nubija is the only bike-share system in the world that is wholly owned and operated by the city it serves. To experience the it firsthand, I met up with Coby Zeifman, an American who came to Changwon two years ago and, out of both professional interest in the future of transportation and pure enthusiasm for the system, asked to work with the Nubija team, eventually making himself its outreach coordinator. Together we rode through the city's impressively thorough bicycle infrastructure, Coby clearing the way with friendly waves at advancing trucks and the occasional shout of "*joshim hae!*" – "look out!" – at a pedestrian.

How did this place way down in the southeast of South Korea, which few outside the country have heard of, achieve a degree of cycle-friendliness to which even most of the sustainable transport-minded cities of the west pay little more than lip service? Part of the answer lies in Changwon's slogan: 'Young City'. As South Korea's first planned city – modelled after Canberra, of all places – it dates in its modern form only back to the 1970s, an era when it enjoyed the designation of 'Industrial Base Development Area No 92', growing on the back of factories manufacturing for Korean conglomerate LG Corp.

As urban environmentalism became fashionable, Changwon's manageable size, clean design and straight, wide streets placed it well for conversion into a bastion of bikeability. When Nubija launched in 2008, its users had fully protected lanes to ride in, separated from cars not just by concrete barriers but often walls of well-trimmed trees and shrubs. This frees cyclists from the threat of 'dooring' (getting whacked into moving traffic by the opening door of a parked vehicle) which, in nearly all of America's cities, remains ever-present.

Expanded to take in the older neighbouring towns of Masan and Jinhae in 2010, Nubija bike stations now total more than 240. Riding between the three areas, feeling the roads narrow and the building turn slightly more haphazard, illustrated the challenges of introducing an advanced bike-share system to places fully developed before the concept even made sense. But Nubija, with 3,000 bicycles in use each and every day, ranks as by far the country's greatest success.

Charging less than the equivalent of US\$35 for an unlimited yearly membership, a considerable chunk of the yearly operations cost - said to run between \$300,000 and \$400,000 - goes on bicycle repair and replacement. Zeifman took me up to a 'graveyard' on the roof of one maintenance facility, where hundreds upon hundreds of signature green-and-white Nubija bikes, all somehow wrecked, forlornly awaited the extraction and re-use of their undamaged parts. A Korean mechanic pulled a twisted frame out of the heap, explaining it as the handiwork of a drunken high-schooler. We Americans joked about how much more the bikes would have endured at the hands (and feet) of our own countrymen, young or old, drunk or sober.

Yet I get the sense that Changwon's officials don't fully grasp that, in Nubija, they have the envy of most major cities across the world. Or at least, those cities would envy it if they knew about it; despite its popularity, even with Changwon's foreign population, Nubija had no social-media presence before Zeifman took it upon himself to give it one, and it still inexplicably lacks so much as an English-language website.

Zeifman has helped grow awareness by launching Changwon Bike Party, a monthly event where interested Changwoners ride together through the city and environs, a different route each time. I joined in myself, and as a group of about 50 - foreigners and Koreans alike - we rode down Changwon's streets and under its bridges, up its hills and along its canals, passing local onlookers who regarded us with expressions of consternation or curiosity, even wonder. Some honked their car horns, trying to get us out of the way, but many more waved and snapped photographs.

Read the first day of our urbanist's tour of South Korea here

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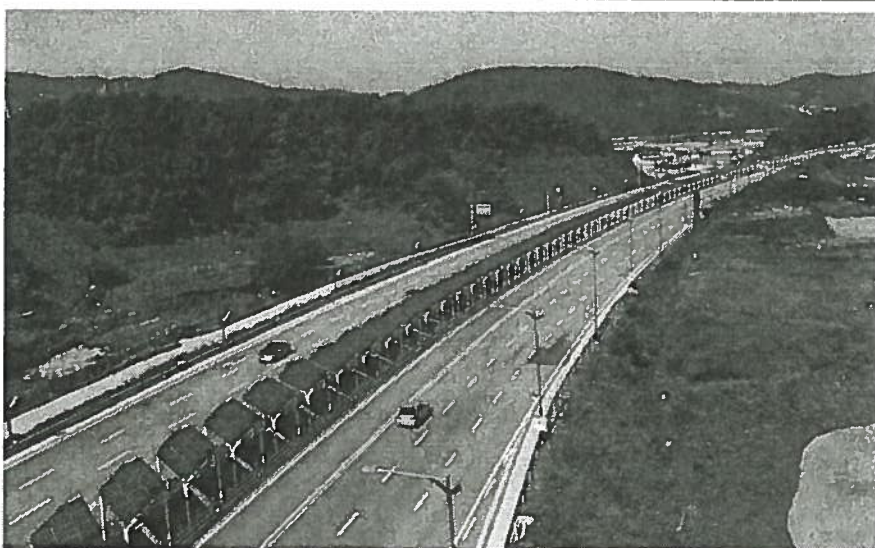
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Bike lane down center of Korean highway is covered with solar panels



Lloyd Alter (@lloydalter)
Transportation / Bikes
April 10, 2015



Video screen capture Youtube

Bicycle lanes are wonderful things, often running through bucolic countryside. Or, like this one in South Korea running 20 miles between the cities of Daejeon and Sejong, they can be running down the median of a six-lane highway. And what's really special about this one is that it is covered with solar panels, generating electricity and shading the cyclists as they ride.



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When I first watched this drone's video I was dubious, wondering how do the cyclists get to the median? Is this really a bike lane or just a solar power scheme? But then I zoomed in on a couple of frames and see that yes, there are actually cyclists using it, and there are these pavilions at bridge crossings so it appears that cyclists carry or ride their bikes up from below where the road goes under the highway:



Youtube/Video screen capture

When we covered the solar bike lane in the Netherlands, a lot of commenters suggested that putting the solar panels on top of the bike lane like this made a lot more sense than burying it under. But does it make sense to put a bike lane in the middle of a highway like this? It is going to be noisy, turbulent when big trucks go by, and the air will be full of particulates and carcinogenic diesel fuel. And every now and then, some vehicle is going to crash through the safety barriers. And then there is the whole riding experience; as one commenter at Carscoops noted,

One of the major advantages of cycling is engagement within an immediate environment. Cycling is, to a great degree, about remaining connected to what's happening around you. One of the great detriments of car-oriented design is the disconnect that higher speed requires. As such, how many cyclists would really WANT to use this? Bottom line is, cycling should NOT be accommodated within a car-prioritized design. Cars should be accommodated within bike-oriented design, and both should be accommodated in pedestrian-optimized areas. Walking should be highest priority; then cycling, then driving

I am conflicted. I love the idea of inter-city bike infrastructure being provided, the shading and protection from the solar canopy is a big help, and of course the bonus of

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the clean solar power. But it seems like a terrible place to ride a bike. What do you think?

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- ☐ YES! solar power, bike lane, shade, what's not to love?
- ☐ No, what a terrible smelly loud place to put a bike lane.
- ☐ Maybe, it is a little bit of both.
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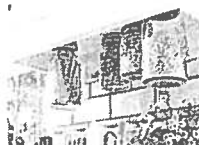
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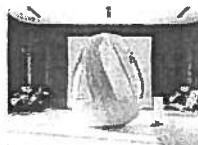
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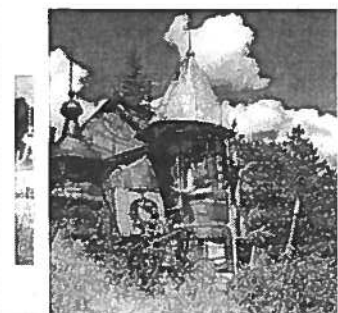
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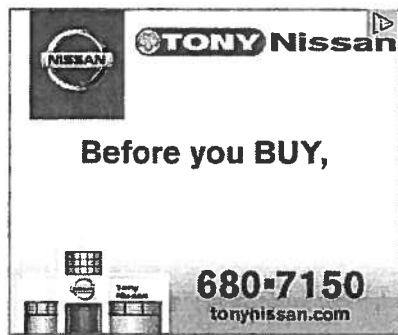
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This really is one odd photo voltaic bike lane in the center of a Korean highway

Posted on April 13, 2015 in [auto](http://archy-news.com/category/auto/) (<http://archy-news.com/category/auto/>)

We are likely to ignore, a minimum of as it were, the bike-riders-drawing-lower-vehicle-fumes aspect of this specific eco-friendly-energy-transportation plan. In Columbia, a 20-mile bike line continues to be built lower the center of a highway (discuss a “protected” bike lane), and it is covered in solar power panels. Now all we want is perfect for South Koreans to embrace plug-in automobiles en masse.



Yes, the road travels between your metropolitan areas of Daejeon and Sejong inside a region about 100 miles south of Seoul, right lower that which was the middle median of the six-lane highway. And individuals sections do provide some much-needed shade, additionally to producing energy.

Browse the Korean path through the drone-powered three-minute video.

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The Columbia path appears much more extensive than the usual far more compact version set up in Holland late this past year, although the uses are very different. Holland's 230-foot-lengthy SolaRoad, which cost about \$3.seven million to set up, was built like a test mattress for showing how certain road surfaces could be employed to generate solar power in addition to supplying special lighting and traffic-management date. Although not shade, obviously.

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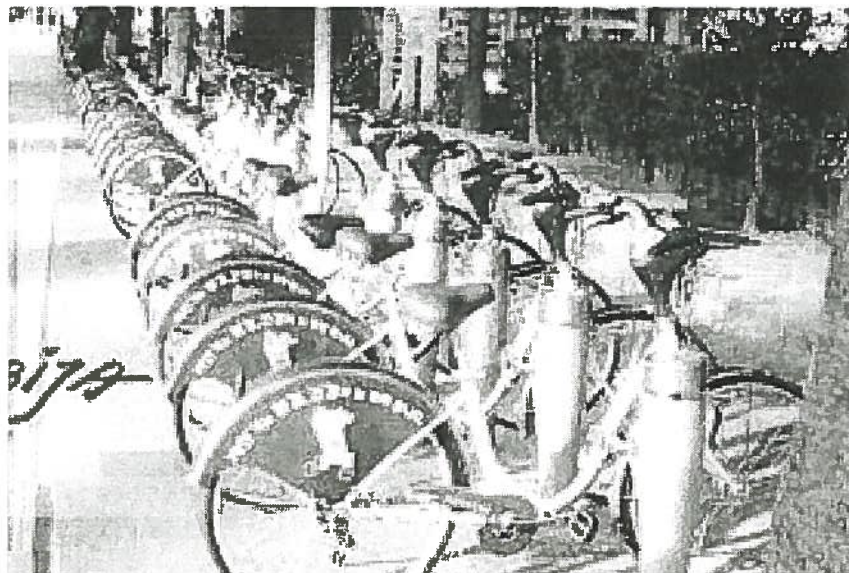
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South Korea's Bicycle imports jump 18.5% in 3 years: KCS

Reported by: Customs Today Report March 30, 2015

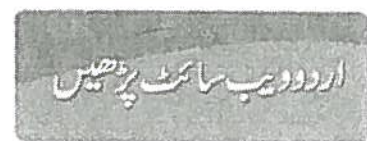
SEJONG: South Korea's bicycle imports rose 18.5 percent in the last three years, According to government data, fueled by the spike in people enjoying leisure and sports activities.

According to data by the Korea Customs Service (KCS), the country imported US\$210 million worth of bikes last year, up from \$170 million for the whole of 2012. This translates into an average 8.8 percent growth every year.

In terms of volume, annual growth averaged 6.4 percent in the three-year period, with numbers reaching 1.9 million bicycles in 2014, up 13.2 percent from 1.7 million bikes imported in 2012.

The KCS said the steady rise in numbers comes as more and more South Koreans take time off for sports and recreational activities. It said more bicycle-related infrastructure in the country, such as dedicated bike roads, compared to the past has bolstered the boom.

Imports from China edged up 0.6 percentage point vis-a-vis 2012, while numbers for Taiwan were down 0.6 percentage point. Many Chinese bikes are products made by South Korean companies that have plants in China or those made under original equipment manufacturer contract with local businesses that import them for domestic sale.



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The customs service said the average unit cost of bikes rose 4.7 percent from US\$102.40 in 2012 to US\$107.20 in 2014.

On average Chinese-made bikes had a price tag of US\$80, while those made in the United States reached US\$883.50 last year. Bikes made in Britain and Germany cost US\$846.70 and US\$740.50, each.

"U.S. and European bicycles are expensive primarily because many are rugged mountain bikes," the KCS said.

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